

AMENDMENTS TO THE CLAIMS

Claims 1-29 (canceled)

30. (new) A device for unloading a rack storing containers, wherein:
the rack has a front space storing a front container and a rear space storing a rear container;
the device comprises a robotic arm coupled to a frame having a first and second gripping heads capable of gripping the neck of front and rear containers;
wherein the first gripping head is capable of displacement from a proximal position to a distal position to reach through the front space into the rear space for gripping the rear container; and
a shoulder support structure coupled to the second gripping head for contacting a shoulder portion of the front and rear containers to support a weight of the containers while the container is being gripped by the second gripping head.
31. (new) The device of claim 30, wherein the first gripping head is disposed on a distal end of a sliding rod, and wherein a movement of the sliding rod in a distal direction displaces the first gripping head from the proximal position to the distal position.
32. (new) The device of claim 31 further comprising a pressure sensor disposed on the first gripping head, capable of sensing pressure applied to the first gripping head by a weight of the container so as to prevent overstressing the sliding rod when the first gripping head is displaced in the distal direction at the distal position.
33. (new) The device of claim 32 further comprising claws disposed on the first and second gripping heads for gripping the neck of containers.
34. (new) The device of claim 31, wherein the second gripping head remains stationary in spatial relation to the frame, during all phases of operation.
35. (new) The device of claim 30, wherein the robotic arm is capable of displacing the frame from a first location where the rack is, to a second location away from the first location, wherein the second location comprises full bottles to be loaded unto the rack.

36. (new) The device of claim 33, wherein the shoulder support structure is configured such that the shoulder support structure is in direct contact with a substantial area of the shoulder portion of the container.
37. (new) The device of claim 33, wherein the shoulder support structure is configured such that the shoulder support structure is in direct contact with an area that is at least 50% of the shoulder portion of the container.
38. (new) The device of claim 34, wherein the containers are conventional 5-gallon water bottles.
39. (new) The device of claim 32, wherein a distance between the first and second gripping heads changes as the first gripping head is displaced from the proximal position to the distal position.
40. (new) A device for grabbing bottle comprising:
a robotic arm coupled to a frame;
a first gripping head with claws coupled to a sliding rod;
a second gripping head with claws;
wherein the first and second gripping heads are coupled to the frame;
wherein the first gripping head is capable of movement along a longitudinal axis of the sliding rod in a distal direction; and
wherein the second gripping head has shoulder support structure for contacting a shoulder portion of the bottle to support a weight of the bottle while the bottle is being gripped.
41. (new) The device of claim 40 further comprising pressure sensor coupled to the claws of the first gripping head for sensing pressure applied to the claws by a weight of the bottle so as to alert an user when the sliding rod is overstressed.
42. (new) The device of claim 41, wherein the shoulder support structure has a concave contact surface for contacting the shoulder portion.

43 (new) The device of claim 40 further comprising a drive coupled to the claws of the first and second gripping heads for tightening the claws to secure around a neck portion of the bottle, wherein the drive is driven by at least one of electric force, hydraulic force, and pneumatic force.